



**INPAQ**

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# PRODUCT SPECIFICATION

DOCUMENT NO.00031XXXXXX

DESCRIPTION	DRAWN BY	DESIGNED BY	CHECKED BY	APPROVED BY
<b>MHC-S Series</b>	陳曉慧 Sharon Chen	賴柏志 Kidd Lai	賴柏志 Kidd Lai	吳維政 Albert Wu

## Chip Ferrite Bead for High Current (MHC-S Series) Engineering Spec.



This product belongs to the industrial grade standard, not the vehicle gauge product! Can not use auto parts, if the customer is not expressly informed and privately used to auto parts, produce any consequences, the original is not responsible for after-sales service, thank you!

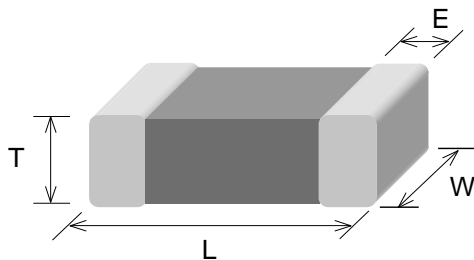
### ■ FEATURES

- Combination of high frequency noise suppression with capability of handing high current
- The current rating up to 6 Amps with low DCR

### ■ APPLICATIONS

- High current DC power lines
- Circuits where a stable ground in unavailable

### ■ SHAPES AND DIMENSIONS



TYPE	1005 (EIA 0402)
L	1.00±0.10
W	0.50±0.10
T	0.50±0.10
E	0.25±0.10
Unit	mm

■ PART NUMBER CODE

<u>MHC</u>	<u>1005</u>	<u>P</u>	<u>12</u>	<u>1</u>	<u>Z</u>	<u>B</u>	<u>P</u>	<u>1A8</u>	<u>DG</u>
1	2	3	4	5	6	7	8	9	10

1. Series Name
2. Size Code: the first two digitals : length(mm), the last two digitals : width(mm)
3. Material Code
4. Impedance( $\Omega$ )  $\pm$  25% } (ex : 120 $\Omega$  → 121)
5. Fixed Decimal Point
6. Rated Current Code

L=1000mA	M=1500mA	N=2000mA	P=2500mA	Q=3000mA
R=4000mA	U=5000mA	W=6000mA	Z=other(refer to code 9)	

7. Soldering: Green Parts: A— Soldering Lead-Free B— Lead-Free for whole chip
8. Packaging: P - Paper tape, 7" reel.
9. Rated Current Value: 1A2=1.2A ; A80=800Ma
10. INPAQ internal code

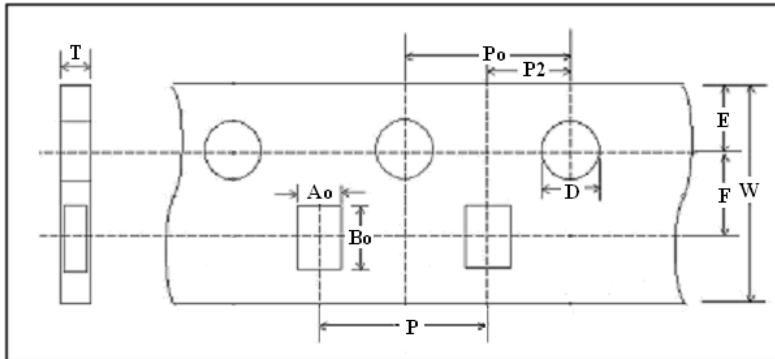
■ PART NUMBER AND CHARACTERISTICS TABLE

Part No.	Impedance ( $\Omega$ ) +/-25%	Test Freq. (MHz)	DCR( $\Omega$ ) (Max.)	Rated Current (mA)
MHC1005P121ZBP1A8DG	120	100	0.075	1800
	●Test Level : 250 mV			
<b>Test Instruments :</b>	●HP4291B RF IMPEDANCE / MATERIAL ANALYZER ●HP4338A/B MILLIOHMMETER ●Agilent 8720ES S-PARAMETER NETWORK ANALYZER ●HP6632B SYSTEM DC POWER SUPPLY			

\*For special part number which is not shown in the above table, please refer to appendix.

■ TAPE AND REEL SPECIFICATIONS

PAPER CARRIER

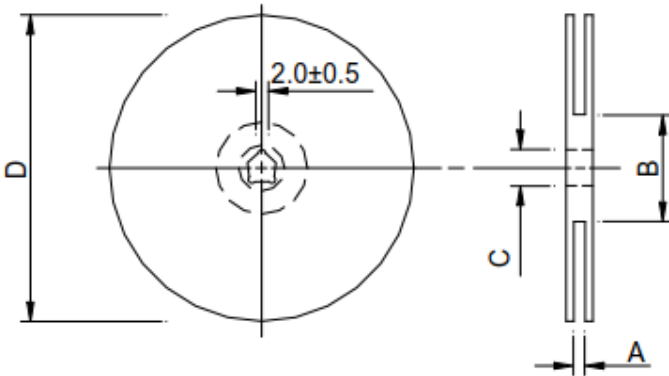


■ TAPING DIMENSIONS

Unit: mm

Size	<b>1005</b>
Symbol	PAPER
W	8.00±0.10
P	2.00±0.05
E	1.75±0.05
F	3.50±0.05
D	1.55±0.05
D1	NA
P <sub>0</sub>	4.00±0.10
P <sub>010</sub>	NA
P <sub>2</sub>	2.00±0.05
A <sub>0</sub>	0.62±0.03
B <sub>0</sub>	1.12±0.03
K <sub>0</sub> (T)	0.60±0.03
t	NA

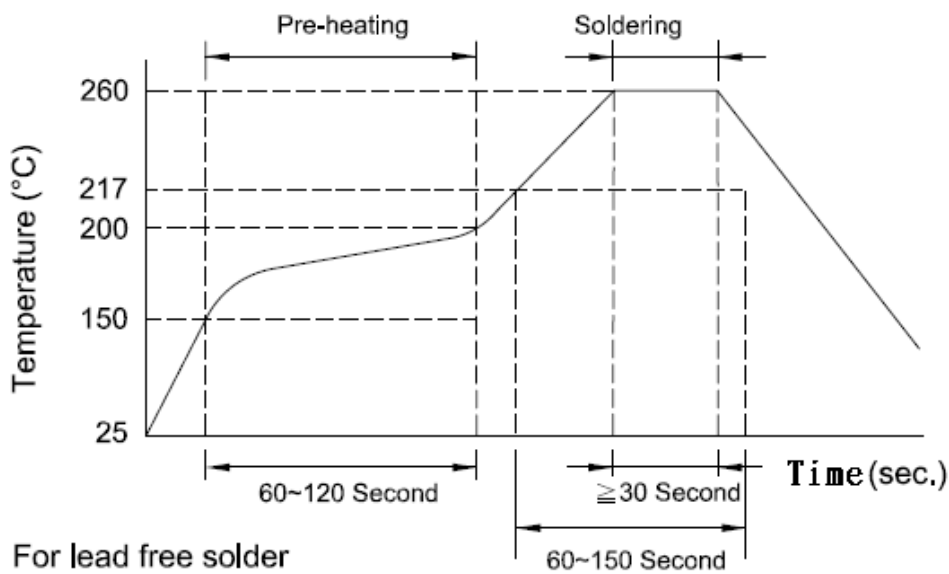
■ REEL DIMENSIONS



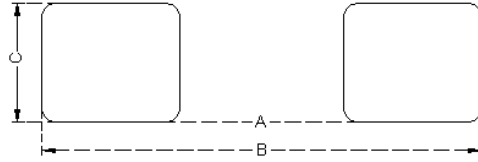
Type	7"
A(mm)	10.0±1.50
B(mm)	50 or more
C(mm)	13.0±0.50
D(mm)	178.0±2.0

7" Reel Packaging Quantity	
Part Size (EIA Size)	1005 (0402)
Qty.(pcs)	10,000
BOX	5 reels / inner box

■ RECOMMENDED SOLDERING CONDITIONS



■ LAND PATTERNS FOR REFLOW SOLDERING



■ SOLDER LAND INFORMATION

Unit: mm (inches)

Size	A	B	C
1005	0.4 (0.016)	1.2 ~ 1.4 (0.047 ~ 0.055)	0.5 (0.020)

■ GENERAL TECHNICAL DATA

Operating temperature range : - 55°C ~ +125°C  
 Storage Condition : Less than 40°C and 70% RH  
 Storage Time : 6 months Max.  
 Soldering method : Reflow

■ RELIABILITY AND TEST CONDITION

Test item	Test condition	Criteria
<b>Temperature Cycle</b>	a. Temperature : -40 ~ +85°C b. Cycle : 100 cycles c. Dwell time : 30minutes d. Measurement : at ambient temperature 24 hrs after test completion	a. No mechanical damage b. Impedance value should be within $\pm 20\%$ of the initial value
<b>Operational Life</b>	a. Temperature : 125°C $\pm 5^\circ\text{C}$ b. Test time : 1000 hrs c. Apply current : full rated current d. Measurement : at ambient temperature 24 hrs after test completion	a. No mechanical damage b. Impedance value should be within $\pm 20\%$ of the initial value
<b>Rated Current Test</b>	a. Apply current : full rated current / 5min	Temperature rise should be less than 40°C
<b>Biased Humidity</b>	a. Temperature : 40°C $\pm 2^\circ\text{C}$ b. Humidity : 90 ~ 95 % RH c. Test time : 1000 hrs d. Apply current : full rated current e. Measurement : at ambient temperature 24 hrs after test completion	a. No mechanical damage b. Impedance value should be within $\pm 20\%$ of the initial value
<b>Resistance to Solder Heat</b>	a. Solder temperature : 260 $\pm 5^\circ\text{C}$ b. Flux : Rosin c. DIP time : 10 $\pm 1$ sec	a. More than 95 % of terminal electrode should be covered with new solder b. No mechanical damage c. Impedance value should be within $\pm 20\%$ of the initial value

Test item	Test condition	Criteria
<b>Adhesive Test</b>	a. Reflow temperature : 245°C It shall be Soldered on the substrate applying direction parallel to the substrate b. Apply force(F) : 5 N c. Test time : 10 sec	a. No mechanical damage b. Soldering the products on PCB after the pulling test force > 5 N
<b>Steam Aging Test</b>	a. Temperature : 93°C b. Test time : 4 hrs c. Solder temperature : 235 ± 5°C d. Flux : Rosin e. DIP time : 5 ± 1 sec	More than 95 % of terminal electrode should be covered with new solder